

Classwork 1/27

① A standard deck of cards has 4 suits (hearts, diamonds, spades, clubs) and 13 cards in each suit (2-10, J, Q, K, A).

If you draw two times and replace each time, find

(a) $P(K \text{ then } J)$ (b) $P(A \text{ and } Q)$ (c) $P(A \heartsuit \text{ then } K)$

② Find the slope $m = \frac{y_2 - y_1}{x_2 - x_1}$

(a) $(0, -7)$ $(0, 4)$
 x_1, y_1 x_2, y_2

$$\frac{4 - (-7)}{0 - 0} = \frac{11}{0} = \text{undef.}$$

(b) $(5, 7)$ $(5, 3)$ (c) $(2, 5)$ $(7, -4)$

$$\frac{3 - 7}{5 - 5} = \frac{-4}{0} = \text{undef.}$$

$$\frac{-4 - 5}{7 - 2} = \frac{-9}{5}$$

③ Solve for x

(a) $5x + 7 = 32$
 -7 -7

$$\frac{5x}{5} = \frac{25}{5}$$

$$x = 5$$

(b) $6 - 2x = 7$
 -6 -6

$$\frac{-2x}{-2} = \frac{1}{-2}$$

$$x = -0.5$$

(1c) A and K

$$\frac{1}{52} \cdot \frac{4}{52} = \frac{4}{2704}$$

Or = add

and = mult.

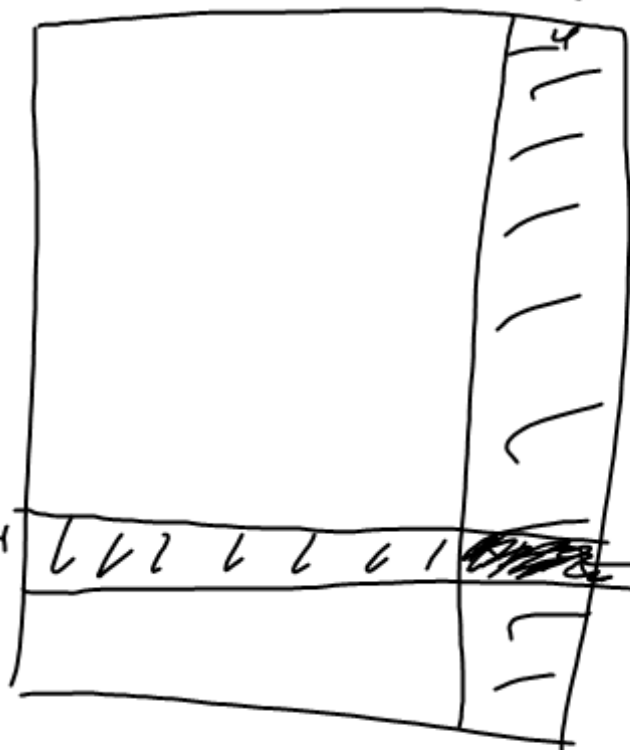
(1a)

52

K

52

J 4



$$\frac{16}{2704}$$

(1b)

52

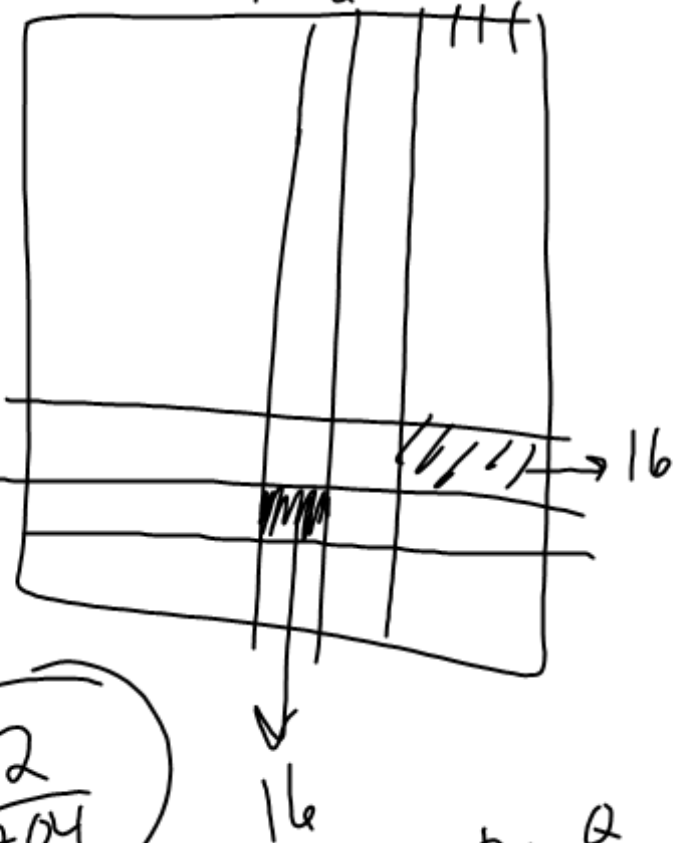
1st Q

A

52
2nd

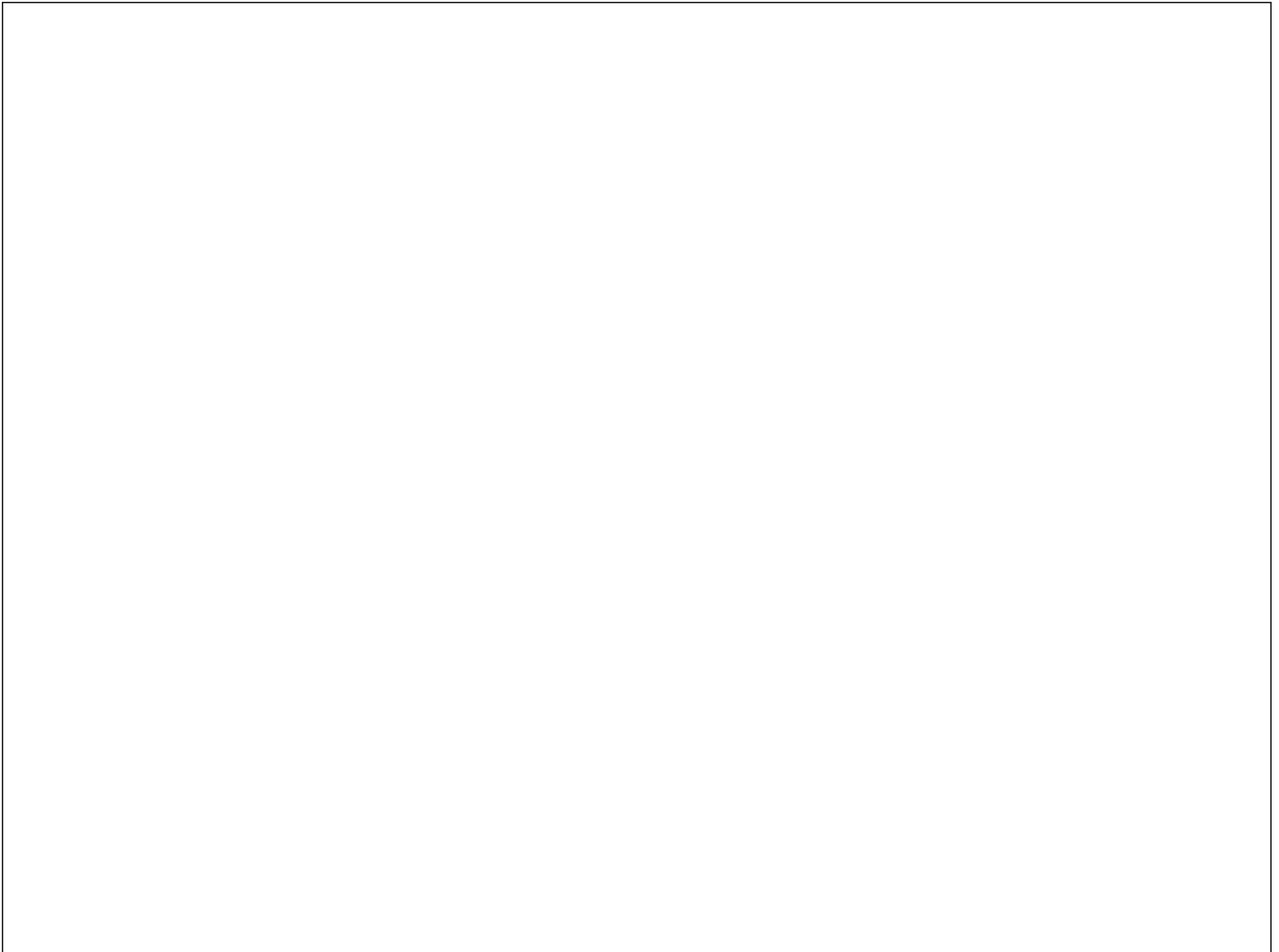
Q

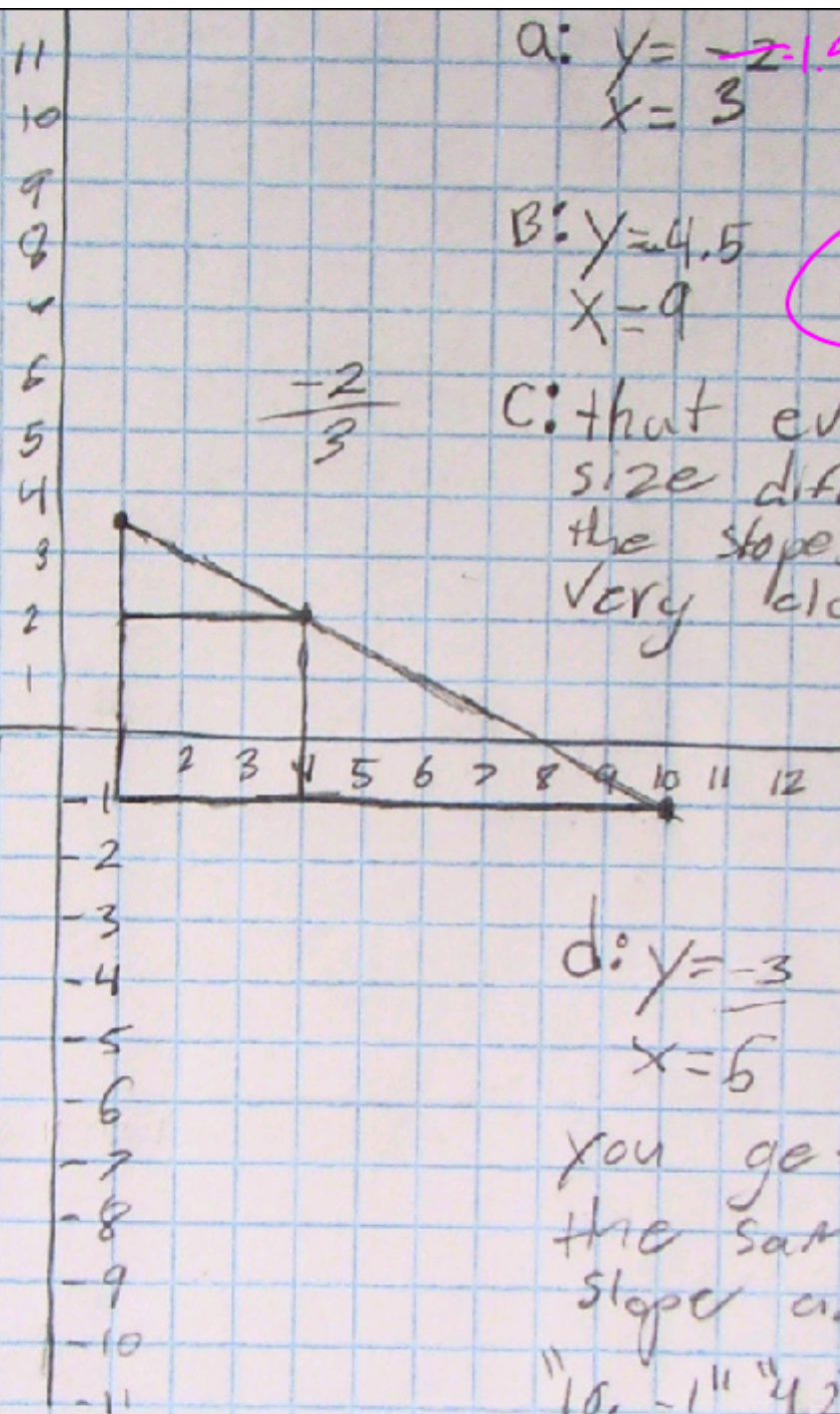
A



$$\frac{32}{2704}$$

$$\begin{array}{l} A \text{ then } Q \\ \frac{16}{2704} \\ Q \text{ then } A \\ \frac{16}{2704} \end{array}$$





$$a: y = -2.5$$

$$x = 3 \quad \cdot 66 \quad 0.5$$

$$b: y = 4.5$$

$$x = 9 \quad \cdot 5$$

c: that even
size difference
the slopes are
very close

$$d: y = -3$$

$$x = 5 \quad \cdot 5 \quad \star$$

you get
the same
slope as
"10, -1" "4, 2"

$$15.) \quad 3.8 = 0.2(z + 6.2) - 5.4$$

$$\begin{array}{rcl} z & 3.8 \\ + 6.2 & + 5.4 & = 9.2 \end{array}$$

$$\bullet 0.2 \div 0.2 = 46$$

$$- 5.4 - 6.2 \quad \swarrow$$

$$= 3.8 \quad (= 39.8)$$

$$m = \frac{y_2 - y_1}{x_2 - x_1}, \quad \begin{matrix} (x_1, y_1) & (x_2, y_2) \\ \text{1st point} & \text{2nd point} \end{matrix}$$

↓
slope

Point slope form

$$y = \underline{m}(x - \underline{x_1}) + \underline{y_1}$$

↓
slope
(see above)

↙ ↘
point

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Steps 1-3

Example

$$\begin{matrix} (5, 3) & (7, 7) \\ x_1, y_1 & x_2, y_2 \end{matrix}$$

$$m = \frac{7-3}{7-5} = \frac{4}{2} = 2$$

$$y = 2(x - 7) + 7$$

OR

$$y = 2(x - 5) + 3$$

$$\begin{pmatrix} 3, & 4.6 \\ x_1, & y_1 \end{pmatrix} \quad \begin{pmatrix} 6, & 2.8 \\ x_2, & y_2 \end{pmatrix}$$

$$m = \frac{y_2 - y_1}{x_2 - x_1} \Rightarrow \frac{2.8 - 4.6}{6 - 3} = \frac{-1.8}{3} = \boxed{-0.6}$$

$$y = \underline{m}(x - x_1) + y_1$$

↓

$$y = -0.6(x - 3) + 4.6$$

$$y = -0.6(x - 6) + 2.8$$

- Turn in Calc.
- Turn in classwork
- Don't ruin the moment